DOCUMENT RESUME

ED 092 782 CE 001 524

TITLE	A Project to Train Vocational Education and Special Education Teachers to Work Cooperatively in Occupational Preparation of Handicapped Persons.
INSTITUTION	Central Michigan Univ., Mount Pleasant.
SPONS AGENCY	Michigan State Dept. of Education, Lansing. Special Needs Program.
PUB DATE	74
NOTE	34p.; For general information and program overview for the teaching guides in this series, see CE 501 286-295 in Current Index to Journals in Education (CIJE)
EDRS PRICE	MF-$0.75 HC-$1.85 PLUS POSTAGE
DESCRIPTORS	Behavioral Objectives; Instructional Materials; Job Skills; Occupational Clusters; Program Coordination; *Program Guides; Program Planning; Skill Development; *Special Education; Special Programs; Teacher Education; *Vocational Education
IDENTIFIERS	Michigan

ABSTRACT

Part of a series of vocational development units for the handicapped, this document provides an overview of the program, its development, and the purposes of each instructional unit. Each of the 10 different units describes a particular occupational cluster. The vocational or special education teacher is guided through the listing of behavioral task knowledges/task skills, instructional methods, instructional materials, and task-related competencies for each occupational cluster. A sample task sheet is included in each of the areas for the teacher as an illustration of the approach used by the teaching guides in this series. (JC)

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A PROJECT TO TRAIN

VOCATIONAL EDUCATION AND SPECIAL EDUCATION TEACHERS

TO WORK COOPERATIVELY IN

OCCUPATIONAL PREPARATION OF HANDICAPPED PERSONS

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funding agency
MICHIGAN DEPARTMENT OF EDUCATION
VOCATIONAL EDUCATION AND CAREER DEVELOPMENT SERVICE
Special Needs Section

funding source
VOCATIONAL EDUCATION AMENDMENTS of 1968
Part B - Handicapped

educational agency
CENTRAL MICHIGAN UNIVERSITY
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INTRODUCTION AND PHILOSOPHY

The information contained in this booklet describes in general terms a series of educational products and a philosophy for cooperative teaching. The ideas presented here represent the efforts of a three year research project conducted by Central Michigan University with funding from the Michigan Department of Education.

The basic philosophical element focuses upon a close, cooperative working relationship between vocational and special education teachers. This cooperative relationship creates the essential supportive instruction which special students often need to be successful in vocational education programs, and eventually in occupations of their choice.

Initially, this cooperative teaching involvement is fostered by teachers sharing in the development and implementation of common units of instruction. The experience from this involvement suggests that when pairs of concerned teachers work closely reinforcing each other's instruction, significant changes are observed. In numerous instances these changes have led the student to a meaningful and productive occupational role in society. Cooperative, inter-departmental teacher preparation programs are viewed as an essential part of the philosophy for enhancement of cooperative teaching attitudes among present, as well as prospective, teachers.

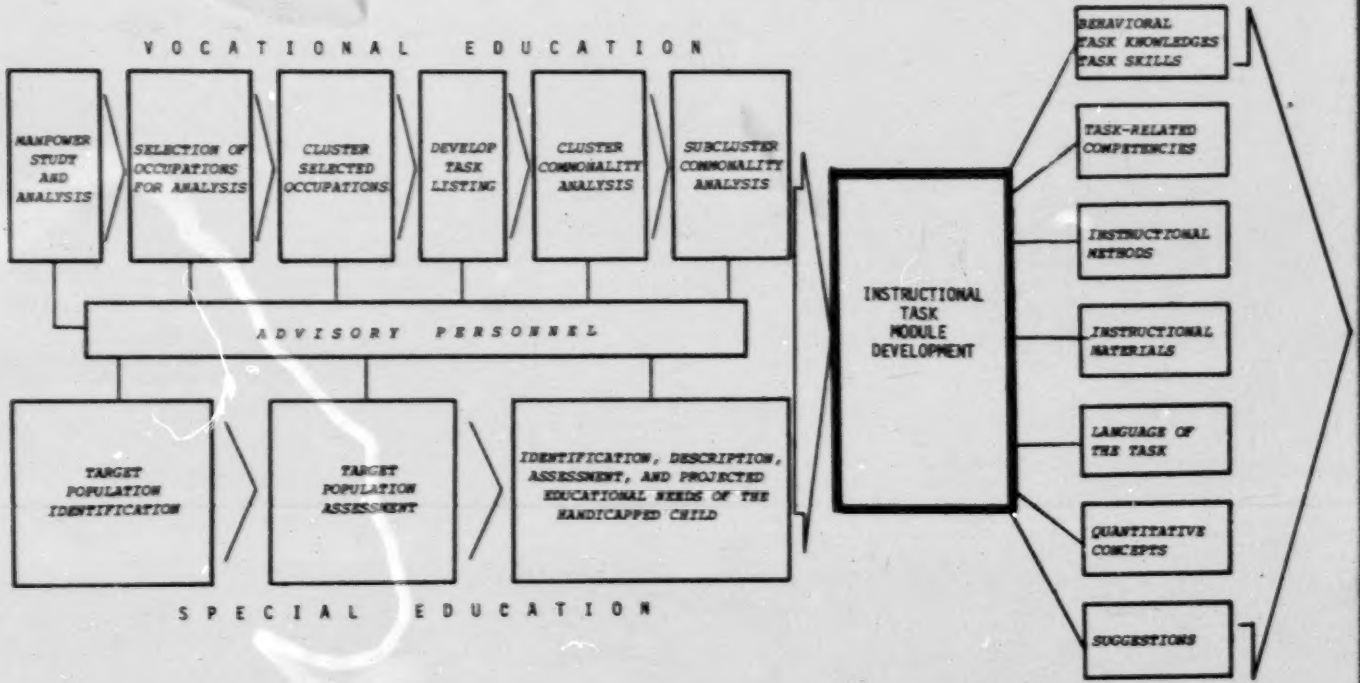
STUDENTS WITH SPECIAL NEEDS

A commonly asked question is: Who are students with Special Needs? Generally speaking, any condition which tags a student as vocationally handicapped is a student with a special need, and makes that student a target of our concerns.

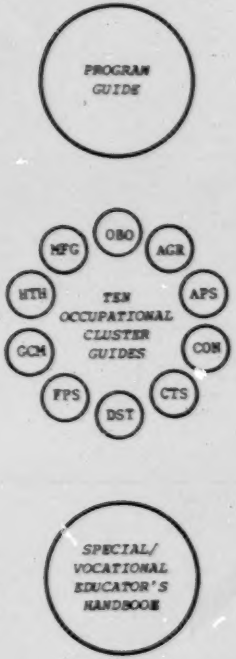
A handicapped individual is one who because of a physical, mental, and/or emotional condition (disability) requires an educational program designed to minimize the effect of his disability so that he can make an adequate personal, social, and vocational adjustment to society.

A person's impairment may (1) necessitate some modification of teaching techniques; (2) require some special classroom engineering to prevent the training from intensifying the handicap; or (3) call for architectural adjustments in the buildings. Should this impairment be left unattended, it may threaten the individual's adequate adjustment as an adult by limiting his or her occupational choices, or by completely eliminating his or her employment potential. These limitations require special attention so the individual can successfully proceed through the vocational program.

PROGRAM PLANNING AND DEVELOPMENT



EDUCATIONAL PRODUCTS



The effectiveness and efficiency of cooperative teaching can be significantly improved by careful program planning and development. The diagram to the left outlines the procedural plan of this project. It suggests some specific activities and procedures which teachers may use in adapting the prepared cluster guide materials to their own programs and students. It may also serve as a guide for those teachers developing a unique subcluster program.

Program planning and development requires extensive cooperation and involvement of teachers, parents, employers, administrators, and other appropriate supportive personnel or agencies. Initially, the vocational education teacher must involve himself in identifying and analyzing the various occupations within the community for which his students may be trained for placement. Once those occupations are identified they may be grouped into clusters. The final step is the identification of the entry-level job tasks for each subcluster.

During the program planning and development phase the cooperating teacher is involved in identifying and assessing the educational needs of individual handicapped children. Specific information is gathered which will assist the teacher in determining the student's potential for occupational and educational development so that he may be placed in an appropriate vocational program.

Once the student is placed in an occupational cluster or subcluster program, teachers begin the actual process of cooperatively teaching. A series of instructional units is chosen or developed for each student. Each instructional unit is based upon the job tasks previously identified. These task modules or task sheets are composed of seven separate sections as shown in the diagram to the left. Further explanation of the components of the task sheet and representative samples of task sheets are contained in this booklet.

SUBCLUSTER: FLORICULTURE/GREENHOUSE

TASK: Plant watering

Code: AGR - FGOJ

Student Name: _____

AGRICULTURE/ NATURAL RESOURCES CLUSTER

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. recognize and describe the importance of soil water to plants. 2. describe and demonstrate techniques of watering plants without over-watering or under-watering. 3. describe and demonstrate techniques for improving the water holding capacities of specific soils. 4. demonstrate a degree of skill in operating plant watering equipment.	• Field trip to golf course to observe and discuss irrigation system. • Teacher presents a demonstration of hand watering, semi-automatic watering, and automatic watering systems. • Students view slides and film of different watering setups. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials: Title	Media	Bib.
KNOWLEDGE A 9	"Fertilizing and Watering Shade and Ornamental Trees"	14	25
NUMBERS B 2b,4a,c,d,f	"Irrigation and the Business of Farming"	8	9
APPLICATION C 4,8	"Greenhouse Crop Production"	14	12
PHYSICAL D 1a,c,d,f 2b 3g			

SUBCLUSTERS:

Agricultural Mechani

Landscaping/Nursery

Greenhouse/Floricult

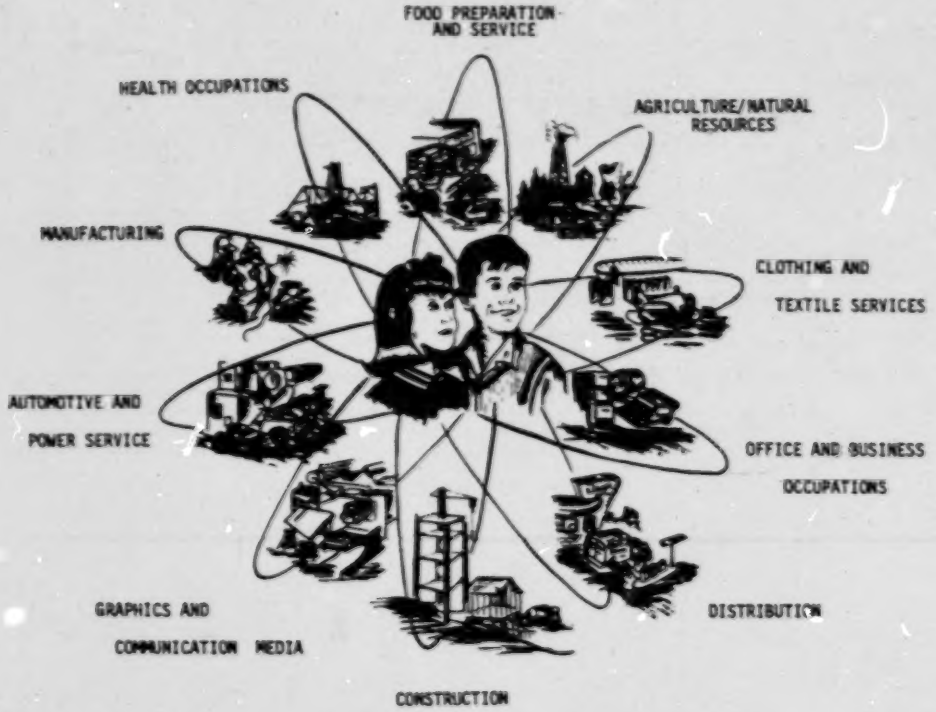
Forestry/Recreation

TEACHER EDUCATION

In an attempt to better prepare graduate and undergraduate students to work effectively with the handicapped, staff members in the Vocational and Special Education Departments are developing a combined Vocational/Special Education Degree program.

Our future projections include: (1) Conducting workshops either on or off campus to localize and operationalize the project cluster guides; (2) Prescribing practicum and/or teaching internship experiences designed to involve teachers with handicapped persons in occupational preparation; (3) Implementing inter-departmental course sequences which utilize vocational and special education team teaching efforts; (4) Maintaining a working relationship with field evaluation teachers to generate periodic curriculum revisions; (5) Creating facilities necessary for the effective preparation of teachers to work successfully with handicapped.

Your reactions (complete the reaction card in this booklet) to this concept will provide impetus to these developments.


FOOD PREPARATION AND SERVICE
HEALTH OCCUPATIONS
AGRICULTURE/NATURAL RESOURCES
MANUFACTURING
CLOTHING AND TEXTILE SERVICES
AUTOMOTIVE AND POWER SERVICE
OFFICE AND BUSINESS OCCUPATIONS
GRAPHICS AND COMMUNICATION MEDIA
DISTRIBUTION
CONSTRUCTION

CLUSTERS

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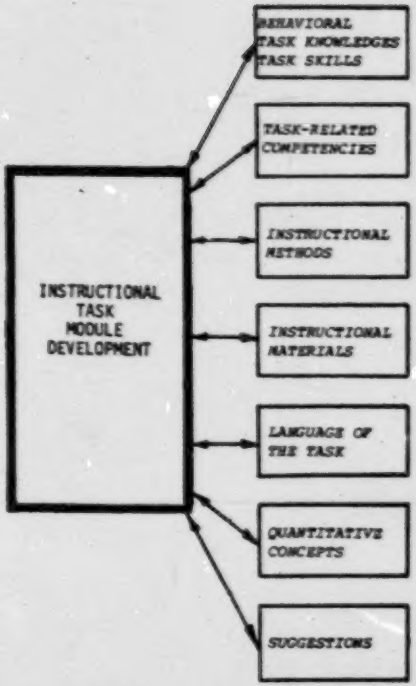

TASK SHEET COMPONENTS

The task sheet samples which follow represent the basic tool which teachers may use to plan, implement, and evaluate a cooperative vocational education/special education program. Each sample task sheet represents a different occupational cluster outlining and defining an entry-level job task.

The front side of the task sheet is composed of four sections. The Behavioral Task Knowledges/Task Skills identify the specific mental understandings or associations needed in the performance of the task, as well as the physical, manipulative activities associated with performing the task. The Instructional Methods and Materials portion is designed to suggest specific teaching techniques, strategies, and materials which have been used effectively with handicapped students. The Task-Related Competencies section identifies some specific learning readiness skills associated with the task. The codes of these different sections can be found on pages

The reverse or "flip side" of the task sheet is designed to help the special education teacher teach more effectively. The Language of the Task and the Quantitative Concepts provide a common ground for communication between the cooperating teacher and vocational teachers. Suggestions and Supportive Instructional Materials include a variety of suggested teaching activities, ideas, games, or materials that may be used in providing an effective and supportive link to the vocational instruction. After having initiated this link, it is hopeful that educational sequences for handicapped youngsters will be more successful and efficient.

AGRICULTURE/
NATURAL
RESOURCES
CLUSTER

SUBCLUSTERS:

Agricultural Mechanics

Landscaping/Nursery

Greenhouse/Floricultur

Forestry/Recreation

SUBCLUSTER: FLORICULTURE/GREENHOUSE

Code: AGR - FG03 TASK: Plant watering

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Soil water Water holding capacity Hose Breaker Diameter Mist Sprinkler Soaker Watering can	Measure the amount of water that flows through a given size hose over a given period of time.

Suggestions:

- To fully become aware of what soil water is in relation to standing water:
  1. demonstrate water seepage through soil as it would relate seepage action in to natural ground soil
  2. demonstrate standing water in a soil situation where water does not have natural drainage and therefore does not seep away but stands in an area of soil
- Take glass, pots, or container and ha have soil mixture approximate soil with adequate drainage to demonstrate action of soil water seepage. Then plant seeds of tomato and observe germination of seed and eventual growth. Next take pot and soil mixture that would create condition of soil that does not have natural drainage and so as to effect condition displaying standing water, this condition would cause seed to either rot or not allow plant growth because standing water would actually drown roots.

Supportive Instructional Materials:

SUBCLUSTER: AUTO BODY REPAIR

TASK: Perform bumping operations

Code: APS - AB02

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will 1. identify by name specific body fillers and equipment used in repairing surfaces or components 2. select the appropriate materials, tools, and equipment needed in specific operations 3. recognize and observe specific safety precautions in repairing surfaces 4. perform the following job skills with accuracy to meet the accepted manufacturer's design a. rough bumping b. straightening c. bump a simple dent d. bump a rolled dent e. bump a ridge f. shrink metal g. stretch metal h. remove dents with heat i. fill with lead j. fill with plastic k. apply appropriate putty for filling deep nicks or scratches in automobile bodies 5. finish the bumped sheetmetal panel to original condition using a. vixen file c. pick hammer b. solder flow file d. dolly block	• Teacher assists, directs, and/or monitors a student(s) in seeking and developing a need(reason) for initiating the task module. • Student reviews the appropriate sections and illustrations in textbooks and related materials • Students view individually or in small groups the appropriate instructional media materials • Teacher provides a demonstration of products, safety precautions, and repair procedures • Students practice specific operation on obsolete materials or components, simulated components, models, or mock-ups • Students develop competencies by actual practice of the identified task skills on personal car or customer's car

Task-Related Competencies	Instructional Materials: Title	Media	Bib.
KNOWLEDGE A 2,3,5,7,9	Auto Body Repairing and Repainting pp 23-55	13	9
NUMBERS B 4b,c,d,f,5	"Hand Tools" (series)	12	30
	"Metal Preparation"	12	30
	"Filling Techniques" (series)	12	30
	"Hammer and Dolly"	12	30
APPLICATION C 5,8	"Simple Rolled Buckle"	12	30
	Instructional models (old fenders)	2	
PHYSICAL D 1a,d,e,f 2c,3a,c,f,g	Display board illustrating procedures for body filling and surface preparation	16	28

AUTOMOTIVE AND POWER SERVICE CLUSTER

SUBCLUSTERS:

Air Conditioning

Appliance Repair

Auto Mechanics

Auto Body Repair

Small Engine Repair

AUTOMOTIVE AND POWER SERVICE CLUSTER

SUBCLUSTERS:

- Air Conditioning
- Appliance Repair
- Auto Mechanics
- Auto Body Repair
- Small Engine Repair

SUBCLUSTER: AUTO BODY REPAIR

Code: APS- ABO2 TASK: Perform bumping operations

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Common auto body deformations dent crease buckle twist	Concept of "shrinking" metal Concept of "stretching" metal Concept of "filling" dents or creases Concept of "straightening"

Suggestions:

- Teacher and deaf student should cooperatively develop some simple signs
- Be careful in using words with multiple meanings when talking to lip reading deaf students
- Use sample board illustrating dents, creases, buckle, twist
- Hand tool safety is extremely important
- Informally encourage voluntary buddy system for assisting blind students (individualize without calling attention to individual)
- Give the blind student ample time for accumulating finger knowledge. Instructor must aid student in moving fingers for gathering information

Supportive Instructional Materials:

SUBCLUSTER: CLOTHING CONSTRUCTION

Sheet 1 of 1

TASK: Interpret alteration tags and markings

Code: CTS - CC01

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Exploratory	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify and describe all general information found on alteration tags a. alteration areas/dimensions b. promised date c. order number d. type, style, or make of garment 2. identify the standard alteration marking symbols a. shortening mark b. lengthening mark c. one side alteration only d. stretch by pressing e. padding by sheets f. shifting mark g. space to be altered h. take in one side only i. let out space between j. shrink by pressing 3. draw selected standard alteration marking symbols for given alterations as determined by local need	• Teacher prepares an activity/quiz worksheet on identification of markings. • Students draw marking symbols for specific given alterations. • Teacher matches successful students who are interested in helping those having difficulty.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9 NUMBERS B 2,4a,d APPLICATION C 5,6 PHYSICAL D 1a,c,d 2a/b 3c,g			

CLOTHING AND TEXTILE SERVICES CLUSTER

SUBCLUSTERS:

Clothing Service

Clothing Construct

Upholstery

Home Furnishings

CLOTHING AND TEXTILE SERVICE CLUSTER

SUBCLUSTERS:

Clothing Service

Clothing Construction

Upholstery

Home Furnishings

SUBCLUSTER: CLOTHING CONSTRUCTION

Code: CTS - CC01 TASK: Interpret alteration tags and markings

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Alteration ticket Order number Garment Symbols Additional language of the task regarding tag information and markings may be obtained from local employers.	Using sample of alteration directives from local store, interpret measuring directions by indicating length of correction and/or depth of alteration on appropriate measuring tool.	• Show students what an alteration ticket looks like and explain that each alteration establishment has its own set of samples, and show what standard symbols look like. • Visit an alteration department with students.

Supportive Instructional Materials:

Working alteration codes of area

SUBCLUSTER: RESIDENTIAL CONSTRUCTION

TASK: Mix concrete and mortar

Code: CON - RC04

Student Name: _____

CONSTRUCTION CLUSTER

SUBCLUSTERS:

Residential Construction

Building Maintenance/ Service

Student Progress					Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable		
					Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the ingredients of concrete: a. cement b. aggregate 1) fine (sand) 2) coarse (gravel or crushed stone) c. water. 2. describe the mix proportions of concrete: a. cement b. sand c. gravel d. water. 3. select and operate mixing tools and equipment: a. cement mixer b. ready-mix truck c. wheelbarrow d. hoe. 4. identify the ingredients for mortar. 5. describe the mixing proportions for mortar. 6. prepare high quality mortar and cement mixes by following prescribed procedures.

Instructional Methods

- Teacher or resource person provides demonstration using transparencies.
- Field representative from a cement company addresses class concerning manufacture and processing of materials.
- Students pour and finish slabs in the lab or on school grounds if desired.
- Students view filmstrip.
- Para-professionals provide sustained involvement with students having difficulty with this task.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 1,3,9 NUMBERS B 2b, 4b,c,5 APPLICATION C 5 PHYSICAL D 1a,d 2d 3-	Modern Carpentry, Unit 6	13	22
	"Pouring the Footing"	12	20
	"Footing"	12	20
	"Foundations for Your Home"	10	53

SUBCLUSTER: RESIDENTIAL CONSTRUCTION

Code: CON - RC04 TASK: Mix concrete and mortar

CONSTRUCTION CLUSTER

SUBCLUSTERS:

Residential Construction

Building Maintenance/ Service

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Concrete Portland cement Water Aggregate fine 1/4" screen coarse 1/3"-1 1/2" screen Cement mixer Mixing consistency	One (1) bag Portland cement weighs 87 1/2# equal to 1 cubic foot in volume. Visualize one cubic yard: 1 yd. x 1 yd. x 1 yd. Large aggregate more than 1/5 the thickness of wall are usable. Prepare mixes in a ratio 1:2:4 One part water to two parts cement to four parts sand Perform a silt test: 1. Add 2" of sand to a quart jar. 2. Add water to 3/4 full. 3. Shake violently for minute or two. 4. Let stand one hour. 5. Measure silt layer at top of sand, if more than 1/8" thick, soil may not be suitable for a foundation.	• Stress the importance of wearing gloves to keep hands clean. Keep mortar and concrete off the skin. • Speak distinctly and slowly, use simple sentences, and look directly at lip reading deaf students.

Supportive Instructional Materials:

Modern Carpentry, Willis H. Wagner, Goodhart-Wilcox, pg. 91
Rough Carpentry and Masonry, Atkinson, McGraw Hill, pg. 17

SUBCLUSTER: RETAILING

Sheet 1 of 1

TASK: Handle credit card transactions

Code: DST - RT03

Student Name: _____

DISTRIBUTION CLUSTER

SUBCLUSTERS:

Material Handling

Retailing

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	
				Given the necessary tools, materials, equipment, and requisite knowledge, the learner will 1. identify and describe the information required on a credit card transaction a. product description b. quantity c. customer number d. customer signature e. cost f. tax 2. demonstrate the procedure for handling credit card transactions a. obtain card from customer b. itemize purchases and tax on receipt form c. set cost digits on machine d. place card in roller machine e. place receipt in machine f. roll head over card g. remove receipt and card for purchaser to sign h. return card to purchaser i. place store copy of receipt in predetermined location 3. describe and demonstrate the methods/ procedures for checking credit card validity a. check signature on card b. check expiration date on card c. call telephone number to verify credit rating

Instructional Methods

- Teacher leads a small group discussion on interpreting information from the credit card.
- Students and teacher role play various credit card transaction situations.
- Students practice filling in a sample credit sale slip.
- Students visit a store of their interest and record the steps in a credit transaction.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,6,7,8	Sample credit cards	1	
	Demonstration machine	1	
NUMBERS B 2a,b,5	"Customer Credit Series" - Scholastic Magazine	14	11
APPLICATION C 1a,b,3,5,6	"Credit and Money Matters" Household Finance	14	7
	"Basic Retail Credit" - University of Texas	14	13
PHYSICAL D 1a	"Market Game" - Benefic Press	3	3

DISTRIBUTION CLUSTER

SUBCLUSTERS:

Material Handling

Retailing

SUBCLUSTER: RETAILING

Code: DST - RT03 TASK: Handle credit card transactions

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Product description Quantity Cost Tax Parts of credit card machine head/handle roller plate cost digit selector	Copy and/or record numbers from a cash register, pump meter, adding machine, etc., accurately. Read and interpret dates as they appear on credit cards: i.e. Expires end of 12 74 Read and interpret a tax chart. Compute total cost of purchases accurately.	• Role play situations involving credit card transactions for sale of different types of products. • Discuss: What is credit? • Stress importance of good communication skills.

Supportive Instructional Materials:

Credit card forms and machine
Credit cards

SUBCLUSTER: FOOD PREPARATION

TASK: Interpret recipes

Code: FPS - FP08

Sheet 1 of 1

Student Name: _____

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. define specific nomenclature and vocabulary terms found in basic recipes: a. weights b. measures c. directions d. temperatures e. ingredients. 2. recognize the advantages of using standard food preparation recipes. 3. accurately complete pre-cooking procedures, such as gathering ingredients, selecting pans, etc.	• Students compile list of unknown words through class discussion. Total class participation in looking up words. • Students role play action words (i.e. beating). • Students review Betty Crocker booklets and text. • Teacher assigns text review materials.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 2,3,7,9	"Commercial Recipes"	12	9
NUMBERS B 1,2,4,5,6,7	"Food Preparation Booklets"	13	12
APPLICATION C 1,2,4,5,6	Textbook	13	5
PHYSICAL			

SUBCLUSTERS:

Food Preparati

Food Service

Baking and Pas

FOOD PREPARATION AND SERVICE CLUSTER

SUBCLUSTERS:

Food Preparation

Food Service

Baking and Pastry

SUBCLUSTER: FOOD PREPARATION

Code: FPS - FP08 TASK: Interpret recipes

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	
Pound - lb., #	Accurately set temperature controls at temperatures described in directions.	• Teacher uses "hands-on" student experience with scales, measuring equipment, and temperature controls (small appliance cords).
Ounce - oz.	Determine weight of objects in pounds and ounces.	
Quart - qt.	Measure liquid and dry ingredients using tsp., tbsp., cup, pint, quart.	
Pint - pt.		
Cup - C		
Tablespoon - T, Tbsp.		
Teaspoon - t, tsp.		

Supportive Instructional Materials:

SUBCLUSTER: OFFSET LITHOGRAPHY

TASK: Operate copy camera

Sheet 1 of 1

Code: GCM - OL04

Student Name: _____

GRAPHICS AND COMMUNICATIONS MEDIA CLUSTER

SUBCLUSTERS:

Drafting

Offset Lithography

Screen Printing

Bookbinding

Letterpress Printing

Commercial Photography

21

Student Progress	Behavioral Task Knowledges/Task Skills
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify the two main types of copy camera: a. vertical b. horizontal. 2. list the component parts of the copy camera: a. lighting system b. copy board c. lens d. bellows e. camera back f. viewer g. stops. 3. describe the function and basic operation of the camera parts. 4. follow a prescribed procedure in setting up and operating a copy camera: a. centering b. set diaphragm c. adjust tapes d. position ground glass e. open shutter f. center copy board g. center film on camera back h. activate vacuum i. close camera back j. set exposure time. 5. follow the camera manufacturer's specifications for cleaning and maintenance of camera.

Instructional Methods

- Teacher provides a demonstration of camera operation procedures.
- Students role play or return demonstrate camera operation procedures.
- Students review illustrated text materials.
- Teacher matches successful students who are interested in helping those having difficulty.
- Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials: Title	Media	Bib.
KNOWLEDGE A 2,3,7,9 NUMBERS B 2,4a,d,5,6 APPLICATION C 2,5,8 PHYSICAL D 1a,c,d 2b 3a,c,g	"Enlarging and Reduction" GA9 "Enlarging and Reduction Scale" GA10 "Aperture" GA18 Photo Offset Fundamentals, Chapter 8	12 13	12 18

GRAPHICS AND COMMUNICATIONS MEDIA CLUSTER

SUBCLUSTERS:

Drafting

Offset Lithography

Screen Printing

Bookbinding

Letterpress Printing

Commercial Photography

SUBCLUSTER: OFFSET LITHOGRAPHY

Code: GCM - OL04 TASK: Operate copy camera

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Vertical camera	Construct vertical and horizontal lines.
Horizontal camera	Read F stop (amount of lens opening): large openings - small numbers small openings - large numbers
Copy board	
Lens	Determining and setting shutter speeds of litho camera: 20 secs., 1 min., 2 1/2 min.
Bellows	
Camera back or vacuum back	Accurately match numbers to a gauge guide for focus.
F stop	

Suggestions:

- It is essential that there be close communication with graphics teacher so that supportive instruction can be relative to the student's needs in completing this task.

Supportive Instructional Materials:

Photo Offset Fundamentals, McKnight and McKnight
Camera and/or mock-ups that are labeled

SUBCLUSTER: HEALTH CARE

TASK: Take and record pulses

Code: HTH - HC19

Student Name: _____

HEALTH OCCUPATIONS CLUSTER

Student Progress	Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced / Involved / Productive / Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. list and describe different body areas from which pulses may be read. 2. read a patient's pulse following a prescribed technique or procedure: a. properly position patient b. locate pulse c. read pulse, noting rhythm, volume, and tension d. record pulse on patient chart. 3. chart the pertinent information regarding a patient's pulse rate reading	• Teacher uses "Show and Tell" format with color slides. • Instructor demonstrates and illustrates the proper pulse taking and recording procedures. Students return demonstration on classmates. • Teacher should allow time for student practice with peers. • Students discuss film on pulse taking and recording. • Teacher illustrates proper pulse charting procedures. • Students run in place for 2 minutes, recording pulse before and after.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,7	"Temperature, Pulse, Respiration"	8	S.S.
NUMBERS B 2b,4d,6	Teacher-prepared slides	10	
APPLICATION C 5			
PHYSICAL D 1a,c,f 3b/c			

SUBCLUSTERS:

Hospital Housekeeping

Health Care

Child Care

SUBCLUSTER: HEALTH CARE

Code: HTH - HC19 TASK: Take and record pulses

HEALTH OCCUPATIONS CLUSTER

SUBCLUSTERS:

Hospital Housekeeping

Health Care

Child Care

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Discuss the importance of relating the information to the right people. • Report abnormal data immediately. • Explain what can effect pulses. • Check with vocational teacher for correct charting procedures. • Drill deaf student extensively on language of the task. • Teacher and deaf student should cooperatively develop some simple signs related to language of the task.
Pulse Heart beat Artery Rhythm Irregular Expansion Contraction Arteries Count Relaxed Second hand Normal Abnormal Radial (arm) Chart	Measure time in minutes and 30 second intervals accurately. Multiply 30 second intervals by two for minute rates. Time half minute using different second hand positions on watch: 12-6, 1-7, etc.	

Supportive Instructional Materials:

Peers: take one another's pulse count at ease and with exercise

"Temperature, Pulse, Respiration" from series from Park Davis (Patients are people)

SUBCLUSTER: MACHINE TOOL OPERATIONS

Sheet 1 of 1

TASK: Use and interpret measuring rules

Code: MFG - MT04

Student Name: _____

MANUFACTURING CLUSTER

Student Progress				Behavioral Task Knowledges/Task Skills	Instructional Methods
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will: 1. identify by name the different types of steel rules: a. pocket rule b. narrow rule c. flexible rule d. slide caliper rule e. hook rules. 2. reading the measuring rule to a. interpret the following gradations: 1) 1/2" 2) 1/4" 3) 1/8" 4) 1/16" 5) 1/32" b. interpret decimal fractions of: 1) 10ths 2) 20ths 3) 50ths 4) 100ths 3. properly store and care for steel measuring rules: a. protection of measuring edge b. storage conditions.	• Teacher provides a demonstration of different measuring techniques. • Students view a series of filmstrips on math concepts. • Students practice measuring objects available in lab, record measurements of specific items. • Para-professionals provide sustained involvement with students having difficulty with this task. • Teacher encourages small peer group cooperation and interaction.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,8,9 NUMBERS B 2a,b, 4a APPLICATION C 7 PHYSICAL D 1a,b,c,d,e 2a,b 3g	Ruler - 9890 (large demo ruler)	1	17
	Fraction-Decimal-Percent-9870	1	17
	"Shop Measuring Instruments"	10	6
	"Bases of Measurement" series	12	7
	"Building Concepts in Mathematics"	10	8
	"Using Modern Mathematics"	10	16

SUBCLUSTERS:

Machine Tool Processes

Combination Welding

SUBCLUSTER: MACHINE TOOL OPERATIONS

Code: MFG - MT04 TASK: Use and interpret measuring rules

MANUFACTURING

CLUSTER

SUBCLUSTERS:

Machine Tool Processes

Combination Welding

Basic Information for Cooperative Teaching		Suggestions:
Language of the Task	Quantitative Concepts	• Give students "hands-on" experience by measuring objects about the room. • Have the students convert the fractional part of the inch to the decimal equivalent found on many rules.
Items to identify: steel rule pocket rule narrow rule flexible rule slide calipers or vernier calipers	Distinguish the identified gradations (1/2", 1/4", 1/8", 1/16", 1/32") on various rules. Determine the decimal equivalent of a fractional part of an inch.	

Supportive Instructional Materials:
Steel rules with labels
Blow-up of rule showing fractional breakdowns
Table of decimal equivalents

SUBCLUSTER: OFFICE MACHINE OPERATORS

Sheet 1 of 1

TASK: Operate a ten-key adding machine

Code: OBO - OM04

Student Name: _____

Student Progress				Behavioral Task Knowledges/Task Skills
Introduced	Involved	Productive	Employable	Given the necessary tools, materials, equipment, and requisite knowledge, the learner will 1. identify the basic keyboard arrangement of a ten-key adding machine 2. describe the procedures for operation of the basic controls of a ten-key adding machine 3. demonstrate the appropriate techniques to be used in finger manipulation of a ten-key adding machine 4. perform the following operation with a given ten-key adding machine a. addition b. subtraction c. division (reciprocal) d. figure payroll e. multiplication 5. change the tape of a given ten-key adding machine when necessary

Instructional Methods

- Teacher demonstrates proper working procedures for operating a ten-key adding machine.
- Students practice operating a ten-key adding machine to obtain answers to teacher-prepared math problems and recording answers.
- Teacher and students discuss importance of accuracy in using the adding machine.
- Teacher matches successful students who are interested in helping with students who have problems of accuracy.

Task-Related Competencies	Instructional Materials		
	Title	Media	Bib.
KNOWLEDGE A 3,9 NUMBERS B 2,5,6 APPLICATION C 2,5,6 PHYSICAL D 1a,b,c,d 2b 3c	Ten-key adding machine	1	
	"Office Machine Course"	14	3
	"Ten-Key Adding-Listing Machine and Printing Calculator"	14	4
	"Business Machine Exercises"	14	11
	"How To Use Business Machines"	14	
	"Business Machines	8	7

OFFICE AND BUSINESS OCCUPATIONS CLUSTER

SUBCLUSTERS:

General Office Clerks

Office Machine Operators

SUBCLUSTER: OFFICE MACHINE OPERATORS

Code: OBO - OM04 TASK: Operate a ten-key adding machine

OFFICE AND BUSINESS OCCUPATIONS CLUSTER

SUBCLUSTERS:

General Office Clerks

Office Machine Operators

Basic Information for Cooperative Teaching	
Language of the Task	Quantitative Concepts
Manual Electric Digit indicator Tape Roller knob Operating handle (manual) (T) Total (S) Subtotal (+) Plus or add (-) Minus or subtraction *(C) Correction or clear *(R) Repeat or multiplication *may vary o, oo, ooo → zero spacing	Be able to count. Be able to recognize all the numerals. Accurately read digits right to left (Blind need to read braille or transcribe from tape.) Accurately copy digits. Appropriately respond to symbols: (raised for blind) t, s, -, +, c, r, o, oo, ooo.

Suggestions:

- Students practice reading and copying digits from adding machine tapes, sales catalogues, newspaper sales ads, etc.
- Students role play customer reaction to incorrect total of purchases.

Note: Be careful that the student doesn't form poor work habits by actually adding columns of numbers before vocational classroom instruction.

Supportive Instructional Materials:

Tapes to read and copy.
Pictorial drawing or photograph with parts labeled.

CODE	MEDIA	PROBABLE LEARNING SENSATIONS					
		Vis.	Aud.	Tac.	Kin.	Ole.	Sav.
1	Demonstration with real objects/materials	x	x	x	x	x	x
2	3-D models - mockups	x	x	x	x	x	x
3	Games - Simulators	x	x	x	x	x	x
4	Sound/Slide Programs	x	x				
5	Filmstrip - Cassette/Record	x	x				
6	TV - Broadcast, Closed Circuit	x	x				
7	Video and/or Audio Recorder	x	x				
8	Film, 16mm - BW/Color, Sound	x	x				
9	Film loop, 8mm	x					
10	Filmstrip	x					
11	Slides	x					
12	Overhead transparencies	x					
13	Books, magazines, texts, booklets	x					
14	Pamphlets, brochures, manuals, workbooks	x					
15	Newspapers, cartoons	x					
16	2-D Displays, charts, graphs, posters	x					
17	Drawings, photographs, schematics, maps	x					
18	Opaque projectuals	x					
19	Telephone, intercom		x				
20	Other, specify						

INSTRUCTIONAL MATERIALS MEDIA CODE

TASK-RELATED

The task-related competencies are a summation of the specific skills, understandings, and/or attitudes that are necessary to satisfactorily accomplish the instructional tasks found in the ten cluster guides. The following listing is used for interpreting the Task-Related Competency code numbers found on each task sheet. A more detailed description of each of the identified competencies can be found either in the Program Guide or the Project Handbook.

A. SKILLS BASED ON KNOWLEDGE

1. Name one or more items
2. Request supplies and/or equipment
3. Check for accuracy and, if necessary, require correction of self and/or others
4. Discriminate sound cues, recognize normal sound as opposed to abnormal sound
5. Identify color
6. Identify form, size, shape, texture
7. Sequencing - Respond by pre-determined plan
8. Write identifying information of persons, places, and/or objects, serial no., weight, and/or types of products on slips or tags, etc.
9. Obtain information through sight, shape, size, distance, motion, color, and other unique characteristics
10. Discriminate olfactory cues

B. CONCEPT OF NUMBERS BASED ON KNOWLEDGE

1. Ordinal
2. Cardinal
   a. read numbers and/or copy
   b. count and/or record
3. Make change (money)
4. Measure
   a. distance
   b. weights - volume - balance
   c. liquids - solids
   d. time (measurement of)
   e. degrees of circle
   f. temperature, pressure and humidity
   g. torque
   h. electricity
   i. vertical-horizontal
5. Perform simple addition and/or subtraction
6. Perform simple multiplication and/or division

C. COMPREHENSION AND PERFORMANCE

1. Forms
   a. write
   b. file, post and/or mail
2. Match
   a. duplicate
   b. sort
3. Check lists and/or fill out report forms
4. Time awareness
5. Follow verbal symbol and/or written direction
6. Recognize words (not numbers) or ability to read and/or write
7. Depth perception
8. Ability to select most appropriate solution
9. Concept of distance

D. SKILLS BASED ON PHYSICAL ABILITIES

1. Fine Coordination
   a. coordinate eyes and hands or fingers accurately
   b. make precise movement
   c. move fingers to manipulate objects
   d. move hands skillfully - placing and turning motion
   e. coordinate hand and foot
   f. feeling - perceiving objects and materials as to size, shape, temperature, moisture content, or texture by means of touch
2. Strength (lifting, carrying, pushing, and/or pulling)
   a. sedentary work, 10# occasionally lifting and/or carrying small items such as tools, etc.
   b. light work, 20#, requires a significant amount of standing or walking
   c. medium work, lifting 50#, frequent lifting and carrying objects weighing 25#
   d. heavy work, frequent lifting and/or carrying up to 50#
   e. very heavy work - lifting objects in excess 100#, lifting and/or carrying objects weighing 50# or more
3. Gross Coordination (climbing and/or balancing)
   a. maintain body equilibrium to prevent falling when walking, standing, crouching, or running on narrow, slippery or moving surfaces
   b. ascend and descend ladders, stairs, scaffolding, ramps, poles, ropes, using feet and legs and/or hands and arms
   c. reaching - extending hands and arms in any directions
   d. crawling - moving on knees or hands and feet
   e. kneeling - bend legs at knees to rest on knee or knees
   f. stooping - bend downward and forward by bending legs and spine
   g. bending - downward and forward by bending at the waist

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